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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,634	04/27/2001	Alexander Ivanovich Taran	VALER12.001A	1850

7590

02/15/2002

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EXAMINER

NORRIS, JEREMY C

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 02/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,634

Applicant(s)

TARAN ET AL.

Examiner

Jeremy Norris

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-19 is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because of the phrase "The invention relates to". Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: The entire application should be in English. Therefore all Cyrillic characters should be removed.

Appropriate correction is required.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by McCormack et al (US 6,054,761).

McCormack et al (hereafter McCormack) disclose, referring to figure 2(a), a multilayered connection plate, comprising: a plurality of layers of a dielectric material (50 & 60) having conductive paths (53, 63) on their surfaces, the layers being connection layers; and a plurality of contact nodes in the form of metallized contacts mutually aligned and interconnected electrically and mechanically by a conductive binding material (72), wherein the contact nodes are made in the form of joints between the contacts, some of which contacts are contact pads coupled with conductive paths of the underlying connection layer, and other contacts aligned with the contact pads are made in the form of metallized holes (51) formed as truncated cones in the upper-lying connection layer, the narrower bases of the truncated cones being faced to the contact pads of the underlying connection layer, and the wider bases of the truncated cones being coupled with the conductive paths on the upper side of the upper-lying connection

layer [claim 9], wherein the contact pads are flat [claim 10], wherein the upper bases of the truncated cones coupled with the conductive paths on the surface of the connection layer are made with metallized rims around the periphery of the bases [claim 11].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCormack.

McCormack discloses the claimed invention as described above except McCormack does not specifically state that the diameter D of the greater base of the truncated cone, the width h of the metallized rim, the diameter d of the lesser base of the truncated cone, the thickness t of the dielectric material of the connection layer and

the minimal width L of the respective contact pad on the underlying connection layer are coupled with the following relationship: $L > \frac{D}{2} + 2h = d + 2t + 2h$. However, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to form the invention in such a manner since Applicant has not stated that such a relationship solves any particular problem. Moreover, it has been held that more than a mere change of form is necessary for patentability. *Span-Deck, Inc v. Fab-Con, Inc.* (CA 8, 1982) 215 USPQ 835.

Allowable Subject Matter

Claims 13-19 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Claim 13 states the limitation "the contact nodes comprise metallized holes in the form of truncated cones made in the upper-lying connection layer, metallized through holes in the insulating layer, and contact pads coupled by conductive binding material on the underlying connection layer". This limitation, in conjunction with the other claimed features was neither found to be disclosed in, nor suggested by the prior art. Claim 17 states the combination of limitations "a first node provided through the first connection layer and having a metallized hole, an inner surface of which is connected to the conductive path of the first connection layer, and a contact pad connected with the conductive path of the second connection layer, wherein a conductive binding material is deposited in the metallized hole to be in contact with the inner surface of the metallized hole and the contact pad so as to form a connection between the first and second connection layers" and "a second node provided through the second connection

layer having a metallized hole, an inner surface of which is connected to the conductive path of the second connection layer, and a contact pad connected with the conductive path of the third connection layer, wherein a conductive binding material is deposited in the metallized hole to be in contact with the inner surface of the metallized hole and the contact pad so as to form connection between the second and third connection layers". These limitations, in conjunction with the other claimed features were neither found to be disclosed in, nor suggested by the prior art. Claim 18 states the limitation "wherein a conductive binding material is deposited in the metallized hole and the metallized through hole to be in contact with each inner surface of the metallized hole and the metallized through hole and the contact pad so as to form connection between the first and second connection layers". This limitation, in conjunction with the other claimed features was neither found to be disclosed in, nor suggested by the prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents are representative of the via hole art:

US 5,340,947	Credle et al.,
US 5,355,283	Marrs et al.,
US 5,621,193	Isaak,
US 5,956,843	Mizumoto et al.,
US 6,323,096	Saia et al.,
US 6,323,439	Kambe et al..

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Norris whose telephone number is 703-306-5737. The examiner can normally be reached on Mon.-Th., 9AM - 6:30 PM and alt. Fri. 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7724 for regular communications and 703-305-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JCSN
February 8, 2002


Kluene
Primary Examiner